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10/027,780	12/20/2001	Eyal Cohen	135.001US01	9593

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EXAMINER

WILLIAMS, JEFFERY L

ART UNIT PAPER NUMBER

2137

DATE MAILED: 06/03/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/027,780

Applicant(s)

COHEN, EYAL

Examiner

Jeffery Williams

Art Unit

2137

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 20 December 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-17 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-17 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 20 December 2001 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 5/8/02, 6/9/03.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

**DETAILED ACTION*****Drawings***

Figures 1a and 1c should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). Corrected drawings in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

**Claims 1 – 17 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.**

1           Regarding claim 1, line 4 of claim one contains the limitation "and optionally on  
2 additional keys". This limitation results in a varying list of potential alternatives, causing  
3 ambiguity. Furthermore, language that suggests or makes optional but does not require  
4 steps to be performed or does not limit a claim to a particular structure does not limit the  
5 scope of a claim or claim limitation.

6  
7           Claim 10 recites the limitation "said file" in line 3. There is insufficient antecedent  
8 basis for this limitation in the claim. It is uncertain as to which file ('content file' or  
9 'program file') the applicant is referring to. For the purposes of examination, the  
10 examiner will presume the limitation to be "said content file".

11  
12          Claim 11 recites the limitation "the portion of the executable program file that is  
13 protected by a mine" in lines 1 and 2. There is insufficient antecedent basis for this  
14 limitation in the claim. No prior mention has been made by the applicant of a portion of  
15 the executable program file protected by a mine. For the purposes of examination, the  
16 examiner will presume the limitation to be "a portion of the executable program file that  
17 is protected by a mine".

18  
19          Claim 14 recites the limitation "of the data" in line 2. There is insufficient  
20 antecedent basis for this limitation in the claim. It is uncertain as to which data the  
21 applicant is referring to. For the purposes of examination, the examiner will presume  
22 the limitation to be "of the executable program file".

1 All other claims have been rejected by virtue of their dependency.

2  
3  
4 ***Claim Rejections - 35 USC § 101***

5  
6 35 U.S.C. 101 reads as follows:

7 Whoever invents or discovers any new and useful process, machine, manufacture, or composition of  
8 matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the  
9 conditions and requirements of this title.

10  
11 **Claims 1 – 17 are rejected under 35 U.S.C. 101 because the claimed**  
12 **invention is directed to non-statutory subject matter.**

13  
14 Regarding claim 1, it is rejected as not being tangible since the method of  
15 providing mines in a file does not require hardware to accomplish the step.

16 Furthermore, the claimed program file does not define any structural and functional  
17 interrelationships between the computer program and a computer which permits the  
18 computer program's functionality to be realized.

19  
20 Regarding claims 2 and 17, they are directed to nonfunctional descriptive  
21 material, data per se. The stored keys of claim 2 and the claimed content files of claim  
22 17 do not constitute data structures since there is no claimed functional interrelationship  
23 between data elements.

24  
25 All other claims are rejected as they add no further statutory limitations.

For the purposes of examination, it is presumed that the applicant will place claims 1 – 17 within a statutory category.

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

**Claims 1 – 8 and 11 – 16 are rejected under 35 U.S.C. 102(a) as being anticipated by Lie et al., “Architectural Support for Copy and Tamper Resistant Software”.**

Regarding claim 1, Lie et al. discloses:

*A method for authenticating and protecting data, comprising the providing of a plurality of challenging mines dispersed within an executable program file (Lie et al., page 5, col. 2, par. 3; page 6, fig. 2). The program is divided into encrypted blocks (“mines”), which individually protect the instructions contained within.*

*each mine being dependent on one validation key located in at least one other mine, and optionally on additional keys, for allowing proper use of the executable*

1 *program file and content files that can be activated by said executable program file (Lie*  
2 *et al., page 6, fig. 2). Each block depends upon another block in which comprises the*  
3 *key used to allow the execution of the immediate block, and thus the proper execution*  
4 *of the program.*

5  
6 Regarding claim 2, Lie et al. discloses:

7 *A method according to claim 1, wherein the additional keys comprise:*  
8 *a signature key stored on a media and accessible by standard devices for read-only; a*  
9 *content key stored on the media of the content files; and an authentication key stored in*  
10 *some type of media remote from the one in use. Lie et al. meets this limitation as*  
11 *claimed.*

12  
13 Regarding claim 3, Lie et al. discloses:

14 *A method according to claim 1, wherein the mines are concealed within the*  
15 *executable program file (Lie et al., page 2, col. 1, pars. 2, 3). The blocks ("mines") are*  
16 *encrypted and are thus concealed.*

17  
18 Regarding claim 4, Lie et al. discloses:

19 *A method according to claim 3, wherein the mines are concealed within the*  
20 *executable program file by means of being encrypted (Lie et al., page 2, col. 1, pars. 2,*  
21 *3). The blocks ("mines") are encrypted and are thus concealed.*

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1           Regarding claim 5, Lie et al. discloses:

2           *A method according to claim 1, wherein a portion of the executable program file*  
3 *is encrypted within the location of a mine* (Lie et al., page 2, col. 1, pars. 2, 3; page 5,  
4 col. 2, par. 3; page 6, fig. 2). The program is divided into encrypted blocks ("mines"),  
5 which individually protect the instructions contained within.

6  
7           Regarding claim 6, Lie et al. discloses:

8           *A method according to claim 1, wherein the mines are encrypted* (Lie et al., page  
9 2, col. 1, pars. 2, 3). The blocks ("mines") are encrypted and are thus concealed.

10  
11          Regarding claim 7, Lie et al. discloses:

12          *A method according to claim 5, wherein the proper operation/use of said portion*  
13 *of executable program file is possible only when properly decrypting it using a*  
14 *validation, authentication, or signature key, or a combination thereof, as a decrypting*  
15 *key* (Lie et al., page 6, fig. 2). Each block depends upon another block in which  
16 comprises the key used to allow the execution of the immediate block, and thus the  
17 proper execution of the program.

18  
19          Regarding claim 8, Lie et al. discloses:

20          A method according to claim 1, wherein the mines are encrypted using a  
21 validation, authentication, or signature key, or a combination thereof (Lie et al., page 2,  
22 col. 2, par 5 – page 3, col. 1).



1

2           Regarding claim 11, Lie et al. discloses:

3           *A method according to claim 2, wherein the proper use of the portion of the*  
4 *executable program file that is protected by a mine further depends on the existence of*  
5 *an authentication key, on a medium of the provider of the software, accessible via the*  
6 *Internet* (Lie et al., page 6, col. 1, par. 1 - col. 2, par. 1; page 8, col. 2, [5]). The  
7 software providers provide an authentication key which is receivable from an entity  
8 accessible via the Internet.

9

10          Regarding claim 12, Lie et al. discloses:

11          *A method according to claim 1, wherein the effecting of the mines within the*  
12 *executable program file involves two steps: designating and arming* (Lie et al., page 2,  
13 col. 1, par. 1; page. 5, col. 1, par. 4 – col. 2; col. 2, par. 3).

14

15          Regarding claim 13, Lie et al. discloses:

16          *A method according to claim 12, wherein the designating and arming steps are*  
17 *carried out by two separate entities* (Lie et al., page 2, col. 1, par. 1; page. 5, col. 1, par.  
18 4 – col. 2; col. 2, par. 3). Lie et al. discloses designers who design “designate” the  
19 method of securing the program and programmers who secure “arm” the code.

20

21          Regarding claim 14, Lie et al. discloses:

1        *A method according to claim 13, wherein the designating step is carried out by*  
2        *the author/producer of the data* (Lie et al., page 2, col. 1, par. 1; page. 5, col. 1, par. 4 –  
3        col. 2; col. 2, par. 3). Software designers are authors of the data.

4  
5        Regarding claim 15, Lie et al. discloses:

6        *A method according to claim 13, wherein the arming step is carried out by a*  
7        *data protecting professional* (Lie et al., page 2, col. 1, par. 1; page. 5, col. 1, par. 4 – col.  
8        2; col. 2, par. 3). A programmer with the responsibility to protect the code is a data  
9        protecting professional.

10  
11       Regarding claim 16, Lie et al. discloses:

12       *A method according to claim 1, wherein the dependence between mines is*  
13       *carried out by means of relative addressing* (Lie et al., fig. 1, fig. 2). Lie et al. discloses  
14       a program placed in the memory of a system, wherein the proper program execution  
15       depends upon the relative linking between instruction blocks and not to calls to defined  
16       address locations; thus relative addressing is disclosed.

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

**Claims 1, 12, and 17 are rejected under 35 U.S.C. 102(b) as being anticipated by McManis, EP 0 770 957 A2.**

Regarding claims 1, 12, and 17, they are rejected for the reasons provided in the International Search Report conducted on 1/29/03 as submitted by the applicant on 6/9/03.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

**Claims 9, 10, and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lie et al. in view of Saito et al., "Data Copyright Management System", U.S. Patent 6,081,794.**

1

2       Regarding claim 9, Lie et al. does not disclose that a program utilizing a key may  
3 be used to access encrypted content files. Saito et al. discloses that a program utilizing  
4 a key can be used to access encrypted content files (Saito et al., col. 2, lines 46-67; col.  
5 6, lines 63 – col. 7, line 7).

6       It would have been obvious to one of ordinary skill in the art to employ the  
7 teaching of Saito et al. that a program utilizing a key can be used to access encrypted  
8 program files with the secure program of Lie et al. This would have been obvious  
9 because one of ordinary skill in the art would have been motivated to employ programs  
10 characterized by security in environments where the access and manipulation of  
11 secured content would be of some use.

12       Thus, the combination of Lie et al. and Saito et al. disclose:  
13 *A method according to claim 2, wherein the content files are encrypted by means of*  
14 *content keys (Saito et al., col. 2, lines 46-67; col. 6, lines 63 – col. 7, line 7).*

15

16       Regarding claim 10, the combination of Lie et al. and Saito et al. disclose:  
17 *A method according to claim 9, wherein the proper use of a content file protected by a*  
18 *mine is possible only when finding a corresponding content key for decrypting said file*  
19 *(Saito et al., col. 2, lines 46-67; col. 6, lines 63 – col. 7, line 7). As disclosed by the*  
20 *combination of Lie et al. and Saito et al., the proper execution (execution of the “mines”)*  
21 *of the program file would result in the ability of the program to decrypt protected content*  
22 *with the proper key.*

Regarding claim 17, the combination of Lie et al. and Saito et al. disclose:

*A method according to claim 1, wherein the content files are image, voice, video files, or any other digital file (Saito et al., col. 2, lines 46-67; col. 6, lines 63 – col. 7, line 7).*

### **Conclusion**

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure:

Smith et al., U.S. Patent Publication, "Method and System for Protecting Software Applications Against Static and Dynamic Software Piracy Techniques".

A shortened statutory period for reply is set to expire 3 months (not less than 90 days) from the mailing date of this communication.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jeffery Williams whose telephone number is (571) 272-7965. The examiner can normally be reached on 8:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Andrew Caldwell can be reached on (571) 272-3868. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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